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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,232	07/24/2001	Chuang-Chia Lin	ONX-118	5613
27652	7590	10/23/2003	EXAMINER	
JOSHUA D. ISENBERG 204 CASTRO LANE FREMONT, CA 94539			RAHLL, JERRY T	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/915,232

Applicant(s)

LIN, CHUANG-CHIA

Examiner

Jerry T Rahll

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-12, 14-20, 24, 26-28, 35-37 and 39-42 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 13, 21-23, 25, 29-34 and 38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7, 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Drawings*

1. The drawings submitted have been reviewed and determined to facilitate understanding of the invention. The drawings are accepted as submitted.

### *Specification*

2. The abstract of the disclosure is objected to because it exceeds the maximum length of 150 words. Correction is required. See MPEP § 608.01(b).

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5, 8-9, 11-12, 14-20, 24, 26-27, 35-37 and 39-42 are rejected under 35

U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,556,741 to Fan.

5. Fan describes a MEMS element comprising a crystalline substrate (302) and a moveable element (330) attached to the substrate having a perpendicular portion (360) with a crystal structure (see Col 9 Lns 1-4), where when the moveable element is in one position, a part of the perpendicular portion projects beyond a surface of the substrate (see Columns 5-11 and Figures 3a-5). Fan does not specifically describe the crystal axes of the substrate and the moveable element. However, Fan describes these components made of a crystalline material that would inherently have such axes (see Col 5 Lns 25-34). Further, when the switch described by Fan is in

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a "lowered position", the axes of the moveable element are parallel to the corresponding substrate axes.

6. Fan also describes the movable element substantially restricted to movement in a plane perpendicular to the substrate, where the moveable element rotates about a rotation axis (similar to 310) that is parallel to the plane of the substrate and perpendicular to the plane of the movable element.

7. Fan also describes the movable element including a light reflecting component (380) including a reflective coating (see Col 9 Lns 55-60).

8. Fan also describes the movable element movable attached to the substrate at a first surface (302) of the substrate. Fan does not specifically describe a second surface of the substrate. However, the substrate must inherently have at least one other surface (bottom opposing the top).

9. Fan also describes an actuator (310, 330) coupled to the movable element. The actuator includes a magnetic material on the moving element forming an electrode (see Col 6 Lns 30-54). The actuator is described as electrostatically actuated. The actuator moves the movable element between one position where the perpendicular portion projects beyond the surface of the substrate and a second position (see Figure 3a).

10. Fan also describes a biasing element (310) coupled to the movable element and a latch (340) coupled to the substrate.

11. Fan also describes optical fibers aligned with one or more of the elements (see Figure 3a).

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***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 10 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fan as applied to claims 1 and 24 above, and further in view of U.S. Patent No. 6,195,478 to Fouquet.

14. Fan describes the MEMS device as described above. Fan does not describe the light deflecting portion on two sides of the perpendicular portion. Fouquet describes an optical switch having light deflecting portions on two sides of a switching element. Fan and Fouquet are from the same field of endeavor of optical switching. It would have been obvious to one of ordinary skill in the art to use the two-sided light deflector setup of Fouquet with the MEMS device of Fan to enable the structure for use in a cross-connect type switch.

***Allowable Subject Matter***

15. Claims 6-7, 13, 21-23, 25, 29-34, and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. Claims 6-7 and 38 describe the perpendicular portion of the moveable element formed from a portion of the crystalline substrate.

17. Claims 13 and 29-34 describe a clamping plate attached to an edge of the perpendicular portion of the movable element.

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18. Claims 21-23 describe the latch including a latch plate and guides for restricting motion of the latch plate.

19. Claim 25 describes the movable element attached to a surface of the substrate opposite the surface beyond which the perpendicular portion projects.

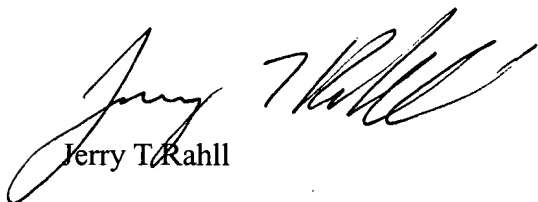
***Conclusion***

20. Prior art documents submitted by applicant in the Information Disclosure Statements filed on 25 November 2002 and 27 March 2003 have all been considered and made of record (note the attached copy of form PTO-1449).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry T Rahll whose telephone number is (703) 306-0031. The examiner can normally be reached on M-F (8:00-5:30), with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

  
Jerry T. Rahll

  
AKM ENAYET ULLAH  
PRIMARY EXAMINER